

BRIEFER ARTICLES.

Notes on a variety of *Ampelopsis quinquefolia*.—For the past ten years I have been observing a variety of the Virginia creeper that is quite marked by characteristic points of difference from the type species. Other students of botany must have noticed this variation and it is strange if nothing has been published upon the subject, but thus far I have failed to find anything¹. My attention was first called to the variation by neighbors who had transplanted the Virginia creeper from the woods but complained that it failed to cling to the side of the house. That was in the Miami valley in Ohio. I have since observed it in southern Iowa and in eastern Kansas. It does seem to me that the peculiarities are sufficient to distinguish it as a permanent variety and it should be so recognized in our manuals.

In the first place the habit of growth is quite different from the type species. As is well known this latter climbs by clinging very closely to its support whether that be a tree or a wall. The variety does not cling so closely to its support. In fact it is impossible for it to climb a wall or even a tree unless the bark be very rough, owing to the structure of its tendrils. It climbs more like the grape and the clematis by trailing over low shrubbery to that which is higher, until it may reach the lower branches of a tree when it may rise to a considerable height by reaching from branch to branch rather than by clinging close to the body of the tree and larger branches.

Sometimes in transplanting the Virginia creeper this variety is brought upon and the unobserving wonder why it fails to cling to the side of the house. On examination the tendrils will be found to be more like grape tendrils, long curling and grasping by recurved tips, rather than short, digitate and clinging by disk-like expansions as in the case of the typical species. The leaves also differ quite perceptibly, being much larger for the same age in the variation, and having longer petioles both for the leaf proper and for the leaflets. The margins are more distinctly serrate with larger teeth. The internodes of the stem are much longer in the variety, causing the leaves to be fewer and more scattered. The nodes are more swollen as are the leaf petioles at the base, making a much larger leaf scar, but the axillary buds are smaller.

The stem of the type species is quite rough, furrowed and warty especially as it grows older, while the variety is much smoother. The fruit of the variety is more abundant, berries larger and in more open corymbs.

¹[See W. R. Lazenby in this journal XIII. 233 and xv. 233.—Eds.]

In short the whole aspect of the variety is more grape-like and for this reason I suggest the name *A. quinquefolia*, var. *vitacea*.—E. B. KNERR, *Midland College, Atchison, Kansas*.

Miscellaneous notes.—In May, 1892, I collected specimens of *Oxalis acetosella* L. having the whole blossom the same reddish color that usually veins the petals. These specimens were found in only one place on the western side of the Green mountains, just east of Manchester, Vermont.

I have found *Hypericum Canadense* L. var. *majus* Gray, very abundant in southern Vermont.

I have found Vermont specimens of *Scutellaria lateriflora* L. to be slightly pubescent as a rule. The corolla of my Vermont specimens of *Stachys aspera* is also slightly pubescent.

Prof. Burrill in the Bulletin of the Illinois State Laboratory of Natural History, II, 408, describes the Illinois specimens of *Uncinula circinata* C. & P. as "hypophyllous." In Vermont specimens I find that quite a percentage of diseased leaves have the fungus on the upper as well as the under side. In the same article, p. 419, he says of *Microsphaera erineophila* Peck: "This peculiar species is not uncommon in southern Illinois. So far as is known it has not been collected elsewhere." I had the good fortune to find a very limited amount of the above mentioned fungus in Newfane, Windham co., Vermont, in October, 1892.

I have found a few parasitic fungi on hosts not in Farlow & Seymour's "Host Index." *Phylactinia suffulta* (Reb.) Sacc. seems to have no choice of hosts whatever, provided that moisture and a little nourishment be furnished. I found it on the following additional hosts: *Hamamelis Virginiana*, *Fraxinus Americana*, *Betula lutea*, *Alnus incana*. On September 23, 1892, I placed specimens of *Phylactinia suffulta*, found on leaves of *Fraxinus Americana*, in a book to dry. There were so many specimens in the book that they kept it moist most of the time and I neglected to thoroughly dry it for nearly three weeks. On October 13th I found nearly mature perithecia of *Phylactinia suffulta* scattered all over the pages of the book and the label, which I had placed with the specimens. By applying KOH to the paper and scraping, threads of mycelium were obtained, showing that the fungus had grown on the damp paper. The asci were formed at the time I examined the plant but no spores. A similar thing took place with another set of *P. suffulta* specimens that were kept slightly moist for a time.

Microsphaera Alni (DC.) Winter was collected in Newfane, Vermont, on *Betula lutea* and *Ostrya Virginica*. *Uromyces Hyperici* was found in

the same locality on *Hypericum Canadense* var. *majus*.—A. J. GROUT, *Johnson, Vermont.*

EDITORIAL.

Of the new fields of botanical research developed in the last few years none have shown more rapid extension and greater economic importance than the study of that class of plant diseases due to parasitic bacteria. The first instance of such a disease was brought to notice in 1880 by Burrill, of Illinois. The disease of pomaceous trees, the cause of which he discovered, best known under the name of pear blight, remains at the present time the most fully investigated disease of its class.

In 1884 DeBary published his work entitled *Morphologie und Biologie der Pilze, Mycetozoen und Bacterien*, and in a brief paragraph on bacterial parasites of plants says they have scarcely been observed, and offers the suggestion that the acidity of the cell sap may partially explain their rarity. Probably no mention of the matter would have been made if the account of the yellow disease of hyacinths, with which bacteria are concerned, and which Wakker brought to light the preceding year, had not come to DeBary's attention.

In 1887 DeBary published his lectures on bacteria, which still remains one of the best works we possess on the general biology of this group of organisms. In this work he gave several paragraphs to the subject, mentioning the two diseases already named, and two or three other doubtful kinds, and appears to hold the view that in no case is the actual parasitic nature of bacteria established, so far as vegetable hosts are concerned. He closes the subject, and at the same time his series of lectures, with the statement that "bacteria are not objects of great importance as contagia of diseases affecting plants." This was the opinion of the best informed writer six years ago, and it has not been modified in any general treatise since that time.

Within the last six years, however, the number of discoveries in this line have been astonishingly large, and it is now evident that it has not been so much the scarcity of the diseases as the scarcity of the right kind of investigators, which has kept the subject obscure. The diseases have been all about us, but they have not been recognized.

The larger part of the advance so far made is due to American activity. Well defined diseases of tomatoes, potatoes, melons, oats, corn, sorghum, beans, beets, carnations, violets, pears and apples, and possibly others, are already known, and still more have been suggested as probably of bacterial origin.